



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,016	06/28/2001	Jeffrey Scott Chase	RSW9-2001-0045-US1	4982

7590 06/28/2006

Mark D. Simpson, Esquire
Synnestvedt & Lechner
2600 Aramark Tower
1101 Market Street
Philadelphia, PA 19107-2950

EXAMINER

BOUTAH, ALINA A

ART UNIT	PAPER NUMBER
----------	--------------

2143

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/894,016	CHASE ET AL.	
	Examiner	Art Unit	
	Alina N. Boutah	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

This action is in response to Applicant's amendment filed April 10, 2006. Application has been reviewed, claims 1-9 are presented for examination, and all claims are analyzed and rejected, in light of the specification. The rejection cited are as stated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art (hereinafter referred to as "AAPR") in view of USPN 6,006,264 issued to Colby et al. (hereinafter referred to as "Colby").

In the specification Applicant admitted that the following teaching are prior art:

Server switch (Page 2, lines 2-6);

Hashing switch is prior art (fig.1, Page 3-Page 4);

Content Based Routing "CBR" (Page 2, lines 7-15);

Domain name associated with P address (Page 3, lines 2-5);

Switching for balancing load among server farm (Fig. 1, Page 3, lines 16-22);

Art Unit: 2143

Hashing switch (figure 1: 114) coupled between the network connection (figure 1: 112) and server farm (116);

URL hashing switch (Page 4, lines Fig. 1, Page 4, lines 1-14); and

Balancing load among server farm or back-end server by using front-end processor (Page 4, lines 15-23).

Further, in light of the specification, the term 'hashing' referred to any form of routing based on content included CBR (Page 2, lines 7-15). Caching/hashing switch is referred to a device or devices, which could be a single unit or separate units, but are capable of performing both caching and switching functions (specification page 7, lines 8-10 (16)).

Regarding claims 1 and 9, as aforementioned above applicant admitted most of the elements in the claims were prior art in the exception of the caching, which in light of specification, a convention hashing switch- coupled between a network connection and a server farm, is associated with cache for storing the requested content and passing the stored content to a requestor if the cache had the requested content, stored therein. Nevertheless, the caching and redirecting conceptual is not novelty. They have been utilized in various cache-routing based, prior the applicant invention was made. For instance, Colby teaches an inventive concept of Content-Aware Flow Switch (CFS), which is at a front-end coupled between clients and servers, which inter alia, includes a concept, which could be easily adopted to and modified the convention hashing switch to provide caching function, as claimed.

Colby, further disclosed, the CFS included a Content Server Database (CSD) for identifying whether the requested content is at locality before performing switching function, e.g., redirecting, the request to a remote server (Fig. 3, and corresponding details). Furthermore, Colby suggested the CFS having advantages of balancing workload for servers farm, i.e., load balancing, and having a capability to identifier front-end resources, i.e., identifier locality content, for Quality of Service (QOS) improvement (Col. 3, lines 36-52). Thus, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to modify a conventional hashing switch by incorporating caching mechanisms, such as local server, and the notion of checking local content before sending the request to a server in the servers farms. In order to balance load of the servers as suggested by Colby, with the motivation of improving QUALITY OF SERVICE as suggested in Colby. By this rationale claims 1 and 9 are rejected.

Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of AAPA and Colby as applied to claims 1 and 9, above, and in view of Cielsak (US. 6,240,461).

Regarding claims 2-8, AAPA-Colby disclose the invention substantially as claimed, as described in claim 1, but they do not explicitly disclose hashing an unfound content received from a remote server into the cache. However, the hashing content technique for hashing content from a server into a cache or local server storage is also not new idea. Such technique was being used to improve network traffic, web content provider efficiency, long before the applicant invention was made. For this instance, Cielsak discloses a method and apparatus for improving

Art Unit: 2143

network data traffic, which is capable of determining whether a requested object is in cache of course, it also determines whether the requested object is in a local or any specific servers. If the object were not in at the specific cache location, it would make a request for the object to store in the cache or locality, i.e., updating cache, and then forward the content to the client who requested the content, respectively (see Cielsak, Fig. 2, 216-224). Thus, it would have been obvious to one of ordinary skilled in the art at the time of the invention was made to incorporate Cielsak's technique of updating locality or cache objects, with the motivation of minimizing network traffic to improve quality of service, as suggested by Cielsak (Col. 1, line 10-Col. 2, line 3). By this rationale, claims 2-8 are rejected.

Response to Arguments

Applicant's arguments filed April 10, 2006 have been fully considered but they are not persuasive.

In response to Applicant's argument that AAPA, Colby, and/or Cieslak neither teach nor suggest a client-cache-switch-server arrangement, the PTO respectfully submits that this is indeed taught by the combination of AAPA and Colby as cited above. Specifically, figure 1 of AAPA as well as page 4, lines 1-14 of the specification teaches a hashing switch (figure 1: 114) is coupled between the network connection (figure 1: 112) and server farm (116).

Colby teaches a Content-Aware Flow Switch (CFS), which coupled between clients and servers, which further includes a Content Server Database (CSD) for identifying whether the requested content is at locality before performing switching function, e.g., redirecting, the request to a remote server (Fig. 3, and corresponding details). This is equivalent to immediately

Art Unit: 2143

serving the client if an object is cached. When combined with AAPA, one of ordinary skill in the art would have recognized that the teaching of Colby can easily adopted to and modified the convention hashing switch to provide caching function, as claimed.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 2143

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N. Boutah whose telephone number is 571-272-3908. The examiner can normally be reached on Monday-Friday (9:00 am - 5:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on 571-272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Application/Control Number: 09/894,016

Page 8

Art Unit: 2143

ANB

ANB



DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100